

## **LTS Roadmapping Steering Committee Off-site Meeting Courtyard by Marriott, Salt Lake City, UT October 24-25, 2001**

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An LTS Roadmapping Steering Committee Off-site Meeting was held on October 24-25, 2001, in Salt Lake City, Utah, to (1) bring Working Group chairs up-to-speed on the Long-term Stewardship (LTS) Roadmapping effort and (2) begin establishing Working Group scope and membership in preparation for the Executive Committee Kick-off Meeting, to be held in late November. Attendees were Bill Freudenburg, James Mohatt, James Clarke, Bruce Hallbert, Steve Kowall, Rafael Soto, Steve Birrer, Brooks Weingartner, Bryan Parker, and Doug Hamelin. The LTS Roadmapping effort was summarized and statused for all participants. Additional items of discussion included: Operational Baseline overview; Science and Technology (S&T) Profiling overview; discussion of interactions with Operational Baseline, S&T Profiling, Decision Analysis, and other LTS entities; and initial planning for the November Executive Committee Kick-off Meeting. Details of each presentation are contained in the attached presentations and their associated handouts (distributed at the meeting). Action items and responsible parties resulting from the respective discussions appear below.

### ***Day One — Wednesday, October 24, 2001***

#### Welcome and Introduction

Bryan Parker welcomed all participants and outlined the objectives of the meeting. Each attendee was then given the opportunity to introduce himself and identify his individual role in the LTS S&T Roadmapping effort.

#### LTS S&T Roadmap Background and Overview — Bruce Hallbert

Bruce Hallbert briefly discussed the LTS S&T Roadmap objectives and highlighted the various issues (i.e., topical areas) that impact the direction of LTS within the DOE (see attached slides). He then distributed a summary of the National Academy of Science (NAS) “Strategic Vision” for LTS and a copy of the NAS presentation to DOE.

Doug Hamelin briefly explained the CD-ROM of background documentation and asked attendees to identify any other documents that they felt would be useful to the Roadmapping effort. Over the course of the meeting, the following documents were identified for inclusion on the CD:

- Sample Roadmaps
- National Research Council report on Decision Making
- Chopin Report
- Initial Needs Assessment and Technology Baseline Inventory (2000)
- A link to the OST Technology Management System (TMS)

#### Technology Roadmapping: An Overview — Steve Kowall

Steve Kowall presented information originally compiled by Devon Streit on the purpose of Technology Roadmapping, in general. He also distributed copies of the Vadose Zone Roadmap as an example of Technology Roadmap within the DOE. Two concepts/understandings of “roadmapping” were discussed, including:

- “Developing an R&D investment strategy ... in a systematic way”. This concept was validated by the presenter, noting that the roadmap will only be one piece of the information used by decision makers to make the ultimate decisions. The presenter then emphasized the need for a broad representation from government, industry, etc. so that decision makers are getting a unified, all-inclusive view.
- A geographical map or guide, with the assumption that there are several pathways for getting from where you are to where you want to be. Our task is to prioritize those alternative paths so that decision makers can make the best choices on a path forward. However, this may not be so much a question of which path to take, but which portion of the LTS problem needs to be allocated to any of several alternative paths.

From a requirements standpoint, Bruce Hallbert noted that we are starting with a smattering of things DOE has said it needs, which make up only a few of the requirements. A principle task of each working group will be to discover the rest of the requirements and come up with the system that will allow any number of alternatives to work. The concept of “moving away from sites through LTS” was presented as a primary LTS objective. The question of whether this is a “marching order” from DOE or whether there are situations where we won’t be able to “move away” was posed for clarification. At last count there were 100+ sites that could not be returned to a public usable condition. The general intent is to “move away”, but that won’t always be possible. Our task is to identify areas where S&T development could significantly impact the possibility of achieving that objective.

The discussion shifted from understanding the overall purpose and objectives of Roadmapping to the bounds under which this effort must function. Several key issues were raised and discussed, as follows:

- Over the life cycle of LTS, many technology developments and evolutions could (and should) occur, altering the path of the roadmap. As such, do we have the flexibility to deal with issues on a case-by-case basis in light of evolving technologies?
  - We do have that flexibility. Now that we are looking outward (rather than short-term), we need to potentially use this roadmap to “push back” on some of the long-term objectives for LTS and consider that some of these sites may never be “closed”. (Steve Kowall)
  - Many of the decision makers at DOE come from commercial backgrounds, which gives us an opportunity and resource to tap a broader perspective in dealing with these issues. Those resources could also form a basis for “pushing back”, from a life-cycle planning perspective, on some of the long-term objectives. (Bruce Hallbert)
  - We have to be careful in that sites are signing up to RODs and committing to take certain actions. If we start “reopening” RODs based on “push back” recommendations, the sites will lynch DOE, and we could have some significant problems to deal with. DOE is looking primarily for a “cost-reduction” approach that allows us to meet our long-term objectives for fewer dollars. (Brooks Weingartner)
- If we have a decision making approach that stakeholders can look at to understand how we decided which technologies to deploy at a particular site to meet a particular need, we may be better served than selecting technology A, B, or C in that we create a shared vision and shared ownership between us and the stakeholders.

- It may be prudent (given the earlier comment on evolving technology discussion) to implement a cheaper (both cost and risk) solution now, but leave the options open to revisit the problem later given technology developments. It is possible, under those conditions and circumstances, to create win-win situations that serve our immediate needs with available knowledge and technologies, but put in motion actions and evolutions that will better serve future generations and stakeholders.
  - Evolving social conditions fed by state and local needs will cause decisions to be revisited time and time again. Decisions made about LTS now will be reopened in 5, 10, 15 years depending on effective stakeholders are at lobbying to have those issues revisited. We should not assume that we won't go back and revisit issues in the future because we will.
- You've given us (the Working Group chairs) the Vadose Zone Roadmap and explained the general approach to getting there. Are you looking for a similar product? Is the Vadose Zone Roadmap what we are supposed to be building?
  - We have a much broader, more unique task to address. At a minimum, we have a hardware component, a decision-making component, and a stakeholder/sociological component. Those together, which were not necessarily addressed in the Vadose Zone Roadmap, will comprise the product of this effort. A key function of the working groups is to establish how these components connect to achieve LTS objectives.
  - DOE is looking for a well thought out, defensible investment strategy with buy-in from the EPA and affected states.

### Scope Discussion — All

Using the Scope and Framework statement drafted by Devon Streit, the group began addressing the bounds of the LTS S&T Roadmap effort. Of primary concern was the issue of whether you can develop a useful roadmap if you constrain it to look only at EM and only for 5 years (as stated in the draft statement). Many of the sites won't begin LTS for 10, 15, or 20 years and will require remediation prior to LTS. Addressing those issues now could result in technologies that will enable lower costs, lower risk, etc. A decision was made to strike the words "for the next 5 years" from the Scope statement.

Next, a question was raised as to how the objective to "improve the effectiveness (and reduce cost) of LTS operations as measured over the life-cycle of its LTS responsibilities" differed from Phase II of the Roadmap effort. It was noted that Phase I focuses only on improvements to the operation of current LTS sites. Phase II moves beyond operation to address improvements and efficiency enhancements for moving sites into and out of LTS, etc. This statement led to a general discussion on the timing of sites into and out of LTS. A reference was made to the "Cleanup to Stewardship" document, which shows those sites that will be "walked away" from by 2006 and a large volume of sites moving into LTS based on "trust" of DOE to manage the legacy issues.

Specific clarifications to Working Group descriptions contained in the Scope and Framework draft will be worked by the Working Group chairs for later incorporation into the base document.

### Technical Baseline — Rafael Soto

Rafael Soto presented an overview of the Technical Baseline report and highlighted the types of information available to the Working Groups. For clarification and understanding, it was noted that a

single subsite can have two or three end-state scenarios (e.g., soil with cap, groundwater, etc.) whereas subportions are aligned to a single end-state scenario. Rafael asked the Working Group chairs to identify the types of information that they would need to conduct their work and coordinate those needs with him so that the Technical Baseline effort could be targeted at gathering that information to better accommodate the working groups.

#### Science and Technology Profile — Steve Birrer

Steve Birrer presented an overview of the information gleaned through the Technology Profiling effort. Of particular note was the correlation of current technology development activities and identified S&T needs. Steve was identified as the point of contact for any questions or inquiries regarding current technologies applicable to LTS.

#### LTS Roadmapping / Working Group Framework — All

A discussion of the framework under which the LTS Roadmapping effort will be conducted resulted in the following clarifications:

- Core Team (INEEL) is contact for support to the Working Groups (facilitation, analysis, contracting, etc.)
- Steve Kowall is the main POC for the Core Team
- Working Group leads “own” the scope of the work
- \$105K (exclusive of adders) is available for the Phase I work
  - Individual contracts (leads) are not included in the \$105K
- Core Team administers contracts
- Some latitude on how funds are utilized
  - Federal expertise should be considered (EPS, DOD, DOE)
  - Working Group chairs need to “think” about makeup of groups (industry, etc.); makeup that makes sense (Not greater than 50% DOE/DOE contractors, per DOE-ID request)
  - Working Group chairs contact possible members and work together to determine makeup
  - Integrate other efforts into Roadmap (e.g., CRESP, FAs, Universities). Consider already funded entities to minimize costs.

#### Working Group Chairs Independent Discussion (3:30 – 5:00)

Working Group chairs requested the opportunity to talk among themselves and begin to formulate a division of responsibility for their respective working groups. Day one activities were subsequently curtailed to meet their request.

## **Day Two — Thursday, October 25, 2001**

### Working Group Chairs Report-out

Working Group chairs met for about an hour at the conclusion of day one to discuss characteristics of the Working Groups. They agreed to meet as a group again on November 9, 2001, in Chicago pending the availability of David Borns. They also elected not to focus on rewording the scope and Working Group descriptions until they could meet again and have an opportunity to contact some of the people they would like on their teams.

The majority of the time was spent discussing potential workgroup members. In James Clarke's case, the majority of knowledgeable individuals reside primarily in the DOE. As such, Brooks Weingartner's request to keep workgroup membership at less than 50% will most likely not be feasible. The other groups don't seem to have a similar problem at this time. All workgroup chairs expressed a need for lawyers and insurance people on their groups. Additionally, we need to establish a mechanism for addressing "privatization" and associated congressional budget and "trust fund"-type issues.

Information Management (IM), as a topical area, crosscuts all working groups. This raises the issues of IM scope, particularly considering DOE-HQ IM initiatives being led by Steve Baranca. IM is a unique area given the types of information needed by each working group; it is, however, primarily a national issue. From a workgroup standpoint, we need focus on the types of technologies that would facilitate IM as we envision it will be needed.

Another issue was raised regarding the name of the Institutional Controls group. James Mohatt suggests a change to "Protection Systems" in that it offers a more umbrella definition/description of the issues being addressed. The concept is that "protection", from the public and environment getting into a controlled area, is ultimately served by combinations of controls that are implemented when a particular trigger (identified by Dave Borns group) indicates its necessity. Deeds and covenants are closely aligned with Bill Freudenburg's group, while barriers and engineered systems being addressed by James Clarke's group. Changing the name to Protection Systems allows James Mohatt's group to focus on the integration of all those systems to best serve a "control" need. The issue of "Institutional Controls" strictly referring to legal barriers was raised for discussion. Monuments, deeds, covenants, fences, etc. are all considered types of institutional controls. James Clarke suggested that each chair let the concepts sink in for a while, then schedule a telecon to hash the issues out and reach a resolution.

Suggestions for name changes for all groups are as follows:

- Contamination Containment and Control (J. Clarke)
- Sensors and Monitoring (D. Borns)
- Risk Management and Safety Systems (J. Mohatt)
- Decision Making and Institutional Performance (B. Freudenburg)

The issue of risk was discussed at having two components: those things you do to control risk, and what you know about the risks. One piece fits with James Mohatt's group; the other fits with Bill Freudenburg's group. Conceptually, Risk Management will be combined with Safety Systems to address "control" of risk elements. All groups will, however, have risk elements that will be addressed at some

level in their individual work. Topical Areas previously identified are subsequently parceled to the Working Group chairs as follows:

- Institutional Controls (J. Mohatt and B. Freudenburg)
- Environmental Monitoring (D. Borns)
- Natural Processes (Cross-cuts All; J. Clarke has ownership)
- Engineered Controls (J. Clarke)
- Engineered Barrier Monitoring (Cross-cuts All; D. Borns has ownership)
- Barrier Improvements (J. Clarke)
- Environmental and Human Health (J. Mohatt)
- Intergenerational Concerns (B. Freudenburg and J. Mohatt)
- Decision Making (B. Freudenburg)
- Information Management/Maintenance (Cross-cuts All; B. Freudenburg has ownership)
- Risk Management (Cross-cuts All; J. Mohatt has ownership)

#### Pre-planning for Executive Committee Kick-off Meeting in Denver, CO

Pre-planning for the resulted in following preliminary agenda items:

- Introductions Plus, indicating that each participant will take some time to expound on the unique skills and knowledge they will be contributing to the effort
- Presentations (in no particular order):
  - S&T Profile (S. Birrer)
  - Operational Baseline (B. Hallbert, in Rafael's absence)
  - Roadmapping Overview (D. Streit)
  - Background on LTS S&T Roadmap Project (B. Hallbert)
  - INEEL Perspective (P. Kearns)
  - HQ Perspective (S. Geiser ?)
  - Expectations and Purpose (EC Chairs)
  - Working Group Names, Scope, Membership and mini-bios (including vacancy descriptions), and Overlaps (WG Chairs) – Tuesday morning (11/20). Use "Quad-chart" approach—Scope, Process, Schedule, Products
- Charter Discussion (Organization/R2A2)
- Roadmap Template/Process/Schedule/Products – Why S&T Roadmap; what is it going to do.
- Issues Discussion following WG presentations on Tuesday Morning

Other topics identified over the course of the meeting as potential agenda items include:

- Discussion on best ways to connect with entities outside of DOE (e.g., academia, international, other government, industry)
- Topics/Process/Timing/Schedule/Products/Methodology for National Workshop and all follow-on meetings
- Approach to Contracting? Standard or not?

### **Open Issues / Concerns**

Open issues and concerns from all discussions are as follows:

- What about Information Management? Where does it belong in the Working Groups?
  - What is the R&D aspect?
  - What piece does DOE\_HQ own?
  - Need to define IM components coming from each Working Group (i.e., what requirements for IM come from each Working Group)
- What about the Decision Making component of the Roadmap? Where does it belong?
- How do we deal with the overlap between the groups? How do groups pass off info to other Working Groups?

### **Action Items**

Action Items resulting from the October 24 – 25, 2001, Steering Committee Meeting in Salt Lake City, UT, are as follows:

<b>Action</b>	<b>Actionee</b>	<b>Due Date</b>
1. Info to Doug Hamelin on contract anomalies you may need to pursue (short and pithy)	WG Chairs	As needed
2. Supply names of possible EPA members to WG Chairs, or call directly.	Brooks Weingartner	10/31/01
3. Contact B. Weingartner to request names of possible EPA members.	James Clarke Doug Hamelin	10/31/01
4. Meeting for Pre-Denver Mtg. (Target date of 11/9 in Chicago, contingent on D. Borns availability)	WG Chairs Bryan Parker	
5. Revisit Working Group verbiage / titles. Refine and submit to core team. Define where topical areas are covered (which WB has which topical area [shared and exclusive])	WG Chairs	11/6/01
6. Clarify IM boundaries and communicate to WG Chairs (B. Hallbert to C. Nichols)	Bruce Hallbert	Before 11/9/01
7. Telecon to discuss Working Group writeups (Prior to 11/1, WG Chairs share new drafts with each other)	WG Chairs Steve Kowall Devon Streit	11/1/01
8. Send template for WG member bios to WG Leads	Core Team Doug Hamelin	11/2/01
9. Mini-bio writeups on WG members to Core Team (what they bring to the WG)	WG Chairs	11/13/01
10. Send template for Denver Mtg. Presentations to WG Chairs	Bryan Parker Doug Hamelin	11/9/01